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SOURCE Newspapers and periodical as indicated. (Information requested.)

HYDROMONITORS USED IN MINING, BRIDGE BUILDING

Pravda Ukrainy, No 306, 26 Dec 48

Hydromonitors (gidromonitor) are being used in caisson work on the railroad bridge being built across the Dnepr River. The construction involves the building of 15 supports by means of caissons and the loosening and bringing to the surface of more than 43,000 cubic meters of earth. To loosen the earth, a hydromonitor of slightly altered design is suspended from the ceiling of the caisson. It is run by the same pumping station which serves the hydroelevator used to remove the earth from the caisson. Only two men are required to operate the hydromonitors and hydroelevator in the working chamber. It requires 0.15 man-day to work one cubic meter of earth with the hydromonitor and other hydraulic equipment; this represents a 730-percent rise in the productivity of labor. A caisson can be sunk at the rate of 4 meters per day.

The Zaporozh'ye Machine-Building Plant imeni Voykov has begun production of hydromonitors which are much superior to US models. These hydromonitors can throw out 1.2 million liters of water per hour and can do the work of 2,000 hand laborers or ten excavators.

Russian engineers have devised a method of working shallow coal deposits by washing with hydromonitors. The gauge is washed away from the coal with the hydromonitors and excavation pumps are used to remove the eroded material.

Ogonch, No 3, Jan 49

Hydromonitors are being used to sink caissons for the Darnitskiy Bridge across the Dnepr at Kiev. In a caisson, two freely rotating hydromonitors are suspended from the ceiling of the caisson. The stream of the hydromonitor is as thick as a man's hand and has a pressure of 10 atmospheres. ^{/CIA Photo}
Accession No 4319 shows a hydromonitor being used in a caisson.

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Pravda Ukrainy, No 7, 9 Jan 49

Hydromonitors are being used in open-pit mining in the "Krivbasruda" (Krivoy Rog Basin Ore) Trust. In cutting a face, the hydromonitor's jet is used to cut a bench in the soft layers along the contact with the hard layers. Then the jet is used to cut blasting holes 3 - 4 meters deep in which ammonal charges are detonated. The detonations crumble all the hard layers, which are then removed by hydraulic transport. The hydromonitor is moved to a new position and the process is repeated.

The introduction of this system raised the productivity of one worker to 66 cubic meters per month and cut the cost of production of 1 cubic meter by 40 percent. The ration of solid mass to liquid reached the record figure of 1:3.9.

To achieve a yearly output of 100 million cubic meters by ordinary methods would require 200 3-cubic-meter excavators, 500 locomotives, and 3,000 dump cars having a total weight of 170,000 tons; to produce this equipment 63,000 workers would be required. However, 28 sets of complex hydromechanical equipment, with a total weight of 4,100 tons and requiring 1,450 workers to produce, could do the same amount of work. The cost of producing the hydromechanical equipment would be 16 million rubles, as compared with the 850 million rubles necessary to produce the other equipment.

Pravda Ukrainy, No 140, 16 Jun 49

Hydromonitors are being used by the Chasov-Yar Ore Administration in connection with the mining of refractory clay.

Zabaykal'skiy Rabochiy, No 128, 2 Jul 49

Large hydromonitors are being used in connection with the unloading and washing of sand in the Severnyy Mine of the Sherlovaya Gora Combine (tin mining) in Chita Oblast.

Promyshlennost' Stroitel'nykh Materialov, No 29, 15 Jul 49

Hydromonitors are being used in the first section of the quarries of the Ambrosiyevka Order of Lenin Cement Plant No 1.

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